

**Translation**

**PATENT COOPERATION TREATY**

**PCT**

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

|   |   |   |
|---|---|---|
| Applicant's or agent's file reference<br><b>04F012-PCT</b>                          | <b>FOR FURTHER ACTION</b>                                       | See Form PCT/IPEA/416                               |
| International application No.<br><b>PCT/JP2004/004254</b>                           | International filing date (day/month/year)<br><b>26.03.2004</b> | Priority date (day/month/year)<br><b>28.03.2003</b> |
| International Patent Classification (IPC) or national classification and IPC        |   |   |
| Applicant<br><b>NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY</b> |   |   |

|    |   |  |
|----|---|--|
| 1. | This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.   |  |
| 2. | This REPORT consists of a total of <b>4</b> sheets, including this cover sheet.   |  |
| 3. | This report is also accompanied by ANNEXES, comprising:<br>a. <input type="checkbox"/> (sent to the applicant and to the International Bureau) a total of _____ sheets, as follows:<br><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).<br><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.<br>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions). |  |
| 4. | This report contains indications relating to the following items:<br><input checked="" type="checkbox"/> Box No. I Basis of the report<br><input type="checkbox"/> Box No. II Priority<br><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability<br><input type="checkbox"/> Box No. IV Lack of unity of invention<br><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement<br><input type="checkbox"/> Box No. VI Certain documents cited<br><input type="checkbox"/> Box No. VII Certain defects in the international application<br><input type="checkbox"/> Box No. VIII Certain observations on the international application   |  |

|   |                                   |
|---|-----------------------------------|
| Date of submission of the demand        | Date of completion of this report |
| Name and mailing address of the IPEA/JP | Authorized officer                |
| Facsimile No.                           | Telephone No.                     |

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2004/004254

Box No. I

Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
- ☒ the international application as originally filed/furnished
- ☐ the description:
- pages \_\_\_\_\_ as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ the claims:
- nos. \_\_\_\_\_ as originally filed/furnished
- nos.\* \_\_\_\_\_ as amended (together with any statement) under Article 19
- nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ the drawings:
- sheets \_\_\_\_\_ as originally filed/furnished
- sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2004/004254

| Box No. V  | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |                                  |     |
|--|---|----------------------------------|-----|
| <b>1. Statement</b>  |   |                                  |     |
| Novelty (N)  | Claims  | 4-9, 13-18, 22-27, 31-36         | YES |
|  | Claims  | 1-3, 10-12, 19-21, 28-30, 37, 38 | NO  |
| Inventive step (IS)  | Claims  | 7-9, 16-18, 25-27, 34-36         | YES |
|  | Claims  | 1-6, 10-15, 19-24, 28-33, 37, 38 | NO  |
| Industrial applicability (IA)  | Claims  | 1-38                             | YES |
|  | Claims  |                                  | NO  |
| <b>2. Citations and explanations (Rule 70.7)</b>   |   |                                  |     |
| <p>Document 1: JP 11-243381 A (Kabushiki Kaisha YRP Ido Tsushin Kiban Gijutsu Kenkyusho), 7 September 1999, fig. 2, 4, 5, 11</p> <p>Document 2: Fumiyo Sato, Michihide Kamio, "Isou Shift Tajuuka Multicarrier CDMA System", The Institute of Electronics, Information and Communication Engineers Gijutsu Kenkyu Hokoku, 19 November 2001, RCS 2001-176</p> <p>Document 3: JP 11-177528 A (Sharp Corporation), 2 July 1999, fig. 5 and 9</p> <p>The inventions set forth in claims 1 to 3, 10 to 12, 19 to 21, 28 to 30, 37 and 38 lack novelty in the light of document 1 cited in the international search report. It is unclear what specific rate is the minimum clock rate of the synchronizing signal set forth in claims 1 to 3, 10 to 12, 19 to 21, 28 to 30, 37 and 38, therefore assuming that the clock rate of the synchronizing signal is a symbol rate, the multiplex transmission method set forth in the invention of this application, wherein a delay time shorter than the symbol sustaining time is assigned to a plurality of synchronizing signals, is disclosed in document 1 (fig. 2, 4, 5 and 11).</p> |   |                                  |     |

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2004/004254

Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

The inventions set forth in claims 4, 13, 22 and 31 do not involve an inventive step in the light of documents 1 and 2 cited in the international search report. The inventions set forth in documents 1 and 2 pertain to delayed multiplex transmission, and document 2 indicates that a delayed multiplex transmission system is used in multicarrier transmission system, therefore it would be obvious to a person skilled in the art to employ the invention set forth in document 1 in a multicarrier transmission system.

The inventions set forth in claims 5, 6, 14, 15, 23, 24, 32 and 33 do not involve an inventive step in the light of documents 1 and 3 cited in the international search report. The inventions set forth in documents 1 and 3 both relate to delayed multiplex transmission systems, and document 3 indicates that quadrature modulation is carried out in a delayed multiplex transmission system, therefore it would be obvious to a person skilled in the art to carry out quadrature modulation in the invention set forth in document 1.